

CHOUGH: spatially filtered Shack-Hartmann wave-front sensor for HOAO

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ABSTRACT

The CANARY-Hosted Upgrade for High-Order Adaptive Optics (CHOUGH), is a narrow-field of view High-Order Single Conjugate on-sky AO demonstrator, to be placed on the 4.2m WHT telescope. It aims to produce a Strehl ratio greater than 0.5 in the visible region of the spectrum (>640nm). A High-Order wave-front sensor (HOWFS) is a central piece of the experiment; it is a Shack-Hartmann with a sampling of 31x31 subapertures across the pupil. A variable aperture spatial filter designed to reduce aliasing for high-spatial frequencies. The HOWFS has a quad-cell configuration on the detector with a one-pixel guard ring and 72 μ m subperture.

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